



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,438	07/31/2001	Shin Hiwasa	1214-011212	1754
28289	7590	10/15/2004	EXAMINER	
WEBB ZIESENHEIM LOGSDON ORKIN & HANSON, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			LAVILLA, MICHAEL E	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/890,438

Applicant(s)

HIWASA, SHIN

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 16, 19 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16, 19 and 21-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 26 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 26 recites "epoxy compounds", whereas previous Claim 25 does not encompass such compounds. It is therefore unclear how this broader subject matter of Claim 26 is encompassed by the claimed materials of Claim 25.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:
3. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - I. Regarding Claim 24, it is unclear whether the claim is a method of use claim having a step of polymerization or whether the claim is an article claim reciting a cationically polymerized material containing the specified polymerization initiator.
  - II. Regarding Claim 25, it is unclear what is meant by the phrase "a compound or a mixture of at least two compounds". What is the

relationship of the first mentioned "compound", the latter mentioned "two compounds", and the recited compounds of the Markush group? Does this phrase mean that the claimed "cationically polymerizable organic substance" can be either one compound of one of the recited Markush group elements or else a mixture of two or more compounds of any of the recited Markush group elements? Alternatively, does the phrase mean that the substance can be either one compound of one of the Markush group elements or else a mixture of two or more compounds of the same Markush group element and that the substance cannot be a mixture of compounds from different Markush group elements? For example, does the phrase mean that the substance is to be either one ethylenic compound or else a mixture of ethylenic compounds and not a mixture of ethylenic and methylo compounds? It is unclear what is meant by the phrases "polyacetal compounds" and "polyamide compounds". Are these materials to be further polymerized or are these the resulting materials of the claimed polymerization?

- III. Regarding Claim 26, in further view of the uncertainty of what has been claimed in Claim 25, it is unclear what is meant by the phrase "is selected from a group consisting of organosiloxane compounds, epoxy compounds and mixtures thereof". Does "mixtures thereof" refer to mixtures of organosiloxane compounds and mixtures of epoxy

compounds or to mixtures of organosiloxane and epoxy compounds or all of the above?

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

6. A person shall be entitled to a patent unless –
7. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
8. Claims 16, 19, and 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Shouzaki et al. USP 6,100,352 for the reasons of record in the Office Action mailed on 29 January 2004. Shouzaki teaches dimethyl ferrocenium tetrakis(pentafluorophenyl)borate for the purpose of polymerization catalysis. See Shouzaki (col. 14, lines 27-50; col. 17, line 20 through col. 18, line 30; and col. 18, line 38 through col. 19, line 58). Shouzaki teaches polymerization of styrene, which may be deemed an ethylenic compound.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 16, 19, and 21-25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Shouzaki et al. USP 6,100,352. Shouzaki teaches a complex comprised of dimethyl ferrocenium tetrakis(pentafluorophenyl)borate, as well as other ferrocenium and borate based complexes for the purpose of polymerization catalysis. See Shouzaki (col. 14, lines 27-50; col. 17, line 20 through col. 18, line 30; and col. 18, line 38 through col. 19, line 58). Shouzaki may not exemplify a complex comprised of the claimed chemical groups, but does suggest that complexes of the claimed chemical groups are effective as catalysts. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate complexes having the claimed chemical group structures as Shouzaki suggests that such complexes are effective as polymerization agents. Shouzaki may not exemplify using the complexes of Shouzaki to polymerize the claimed monomer materials, but does teach polymerizing mixtures of styrenic and/or olefinic monomer compounds. It would have been obvious to one of ordinary skill in the art at the time of the invention to polymerize the styrenic and/or olefinic

monomer mixtures suggested by Shouzaki by using the complexes of Shouzaki as Shouzaki suggests that the complexes are effective for this purpose.

***Response to Amendment***

- I. In view of applicant's amendments and arguments, applicant traverses the claim objection of the Office Action mailed on 29 January 2004. Objection is withdrawn.
- II. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejection of the Office Action mailed on 29 January 2004. Rejections are withdrawn.
- III. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Shouzaki of the Office Action mailed on 29 January 2004. Applicant argues that the catalyst of Shouzaki requires additional catalyst ingredients other than the claimed compound of formula (I) of Claims 16 et seq. However, applicant's claims refer to "initiator" and do not preclude the presence of additional ingredients in view of the "comprises" language at line 2 of Claim 16. Hence, applicant's arguments are not persuasive, and so the rejections are not overcome.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Tuesday, Thursday, and alternating Fridays.
15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 1775

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
07 October 2004

